



## **DEPARTMENT OF TRANSPORTATION**

### **Federal Aviation Administration**

#### **14 CFR Part 39**

**[Docket No. FAA-2021-0613; Project Identifier MCAI-2020-01431-T; Amendment 39-21801; AD 2021-23-03]**

**RIN 2120-AA64**

**Airworthiness Directives; De Havilland Aircraft of Canada Limited (Type Certificate Previously Held by Bombardier, Inc.) Airplanes**

**AGENCY:** Federal Aviation Administration (FAA), Department of Transportation (DOT).

**ACTION:** Final rule.

**SUMMARY:** The FAA is adopting a new airworthiness directive (AD) for certain De Havilland Aircraft of Canada Limited Model DHC-8-400, -401, and -402 airplanes. This AD was prompted by a report of cracking found on a main landing gear (MLG) drag strut assembly. This AD requires a records review to determine if an affected MLG drag strut assembly is installed, repetitive detailed inspections for cracking of affected strut assemblies, a one-time magnetic particle inspection for cracking, and on-condition actions if necessary. The FAA is issuing this AD to address the unsafe condition on these products.

**DATES:** This AD is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

#### **ADDRESSES:**

**Examining the AD Docket**

You may examine the AD docket on the Internet at <https://www.regulations.gov> by searching for and locating Docket No. FAA-2021-0613; or in person at Docket Operations between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this final rule, any comments received, and other information. The address for Docket Operations is U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE, Washington, DC 20590.

**FOR FURTHER INFORMATION CONTACT:** Aziz Ahmed, Aerospace Engineer, Airframe and Propulsion Section, FAA, New York ACO Branch, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; telephone 516-228-7329; fax 516-794-5531; email 9-avs-nyaco-cos@faa.gov.

#### **SUPPLEMENTARY INFORMATION:**

##### **Background**

Transport Canada Civil Aviation (TCCA), which is the aviation authority for Canada, has issued TCCA AD CF-2020-43, dated October 21, 2020 (referred to after this as the Mandatory Continuing Airworthiness Information, or “the MCAI”), to correct an unsafe condition for certain De Havilland Aircraft of Canada Limited Model DHC-8-400, -401, and -402 airplanes. You may examine the MCAI in the AD docket at <https://www.regulations.gov> by searching for and locating Docket No. FAA-2021-0613.

The FAA issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 by adding an AD that would apply to certain De Havilland Aircraft of Canada Limited Model DHC-8-400, -401, and -402 airplanes. The NPRM published in the *Federal Register* on August 3, 2021 (86 FR 41794). The NPRM was prompted by a report of cracking found on an MLG drag strut assembly. The NPRM proposed to require a records review to determine if an affected MLG drag strut assembly is installed, repetitive detailed inspections for cracking of affected strut assemblies, a one-time

magnetic particle inspection for cracking, and on-condition actions if necessary. The FAA is issuing this AD to address cracking of the MLG drag strut assembly and possible failure under compression loads during landing or ground operations, which could result in asymmetric MLG configuration and potential runway excursion. See the MCAI for additional background information.

### **Comments**

The FAA gave the public the opportunity to participate in developing this final rule. The FAA has considered the comment received. The Air Line Pilots Association, International (ALPA) indicated its support for the NPRM.

### **Conclusion**

The FAA reviewed the relevant data, considered the comment received, and determined that air safety and the public interest require adopting this final rule as proposed, except for minor editorial changes. The FAA has determined that these minor changes:

- Are consistent with the intent that was proposed in the NPRM for addressing the unsafe condition; and
- Do not add any additional burden upon the public than was already proposed in the NPRM.

### **Costs of Compliance**

The FAA estimates that this AD will affect 34 airplanes of U.S. registry. The FAA estimates the following costs to comply with this AD:

#### **Estimated costs for required actions**

<b>Labor cost</b>	<b>Parts cost</b>	<b>Cost per product</b>	<b>Cost on U.S. operators</b>
Up to 11 work-hours X \$85 per hour = Up to \$935	\$0	Up to \$935	Up to \$31,790

The FAA estimates the following costs to do any necessary on-condition actions that would be required based on the results of any required actions. The FAA has no way of determining the number of aircraft that might need these on-condition actions:

#### **Estimated costs of on-condition actions**

<b>Labor cost</b>	<b>Parts cost</b>	<b>Cost per product</b>	<b>Cost on U.S. operators</b>
Up to 10 work-hours X \$85 per hour = Up to \$850	\$*	Up to \$850	Up to \$850

\*The FAA has received no definitive data that would enable the agency to provide parts cost estimates for the actions specified in this AD.

The FAA has included all known costs in its cost estimate. According to the manufacturer, however, some or all of the costs of this AD may be covered under warranty, thereby reducing the cost impact on affected operators.

#### **Authority for this Rulemaking**

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. Subtitle VII: Aviation Programs, describes in more detail the scope of the Agency's authority.

The FAA is issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701: General requirements. Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

#### **Regulatory Findings**

This AD will not have federalism implications under Executive Order 13132. This AD will not have a substantial direct effect on the States, on the relationship between the

national government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify that this AD:

(1) Is not a “significant regulatory action” under Executive Order 12866,

(2) Will not affect intrastate aviation in Alaska, and

(3) Will not have a significant economic impact, positive or negative, on a

substantial number of small entities under the criteria of the Regulatory Flexibility Act.

#### **List of Subjects in 14 CFR Part 39**

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

#### **Adoption of the Amendment**

Accordingly, under the authority delegated to me by the Administrator, the FAA amends 14 CFR part 39 as follows:

#### **PART 39 - AIRWORTHINESS DIRECTIVES**

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

#### **§ 39.13 [Amended]**

2. The FAA amends § 39.13 by adding the following new airworthiness directive:

**2021-23-03 De Havilland Aircraft of Canada Limited (Type Certificate Previously**

**Held by Bombardier, Inc.): Amendment 39-21801; Docket No. FAA-2021-0613;**

Project Identifier MCAI-2020-01431-T.

#### **(a) Effective Date**

This airworthiness directive (AD) is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

#### **(b) Affected ADs**

None.

**(c) Applicability**

This AD applies to De Havilland Aircraft of Canada Limited Model DHC-8-400, -401, and -402 airplanes, certificated in any category, serial numbers 4001, 4003, and subsequent.

**(d) Subject**

Air Transport Association (ATA) of America Code 32, Landing Gear.

**(e) Unsafe Condition**

This AD was prompted by a report of cracking found on a main landing gear (MLG) drag strut assembly. The FAA is issuing this AD to address cracking of the MLG drag strut assembly and possible failure under compression loads during landing or ground operations, which could result in asymmetric MLG configuration and potential runway excursion.

**(f) Compliance**

Comply with this AD within the compliance times specified, unless already done.

**(g) Records Review, Repetitive Inspections, and On-Condition Actions**

Within 30 days after the effective date of this AD: Review the applicable airplane maintenance records to determine if any affected MLG drag strut assembly identified in figure 1 to the introductory text of paragraph (g) of this AD is installed. If any affected MLG drag strut assembly is installed, do the actions specified in paragraphs (g)(1) and (2) of this AD.

**Figure 1 to the introductory text of paragraph (g) – Affected MLG Drag Strut**

*Assembly*

Part Number	Serial Number
46301-13	MBM0056
	MBM0073
	MBM0076
	MBM0130
	MBM0136
	MBM0145
	MBM0179
	MBM0204
	MBM0208
	MBM0302
	MBM0303
	MBM0324
	MBM0405
	MBM0408
	MBM0412
	MBM0417
	MBM0423

(1) Within 80 flight hours after accomplishing the records review required by paragraph (g) of this AD, do a detailed inspection for cracking of the affected MLG drag strut assembly, and do all applicable on-condition actions before further flight, in accordance with a method approved by the Manager, New York ACO Branch, FAA. Repeat the inspection thereafter at intervals not to exceed 80 flight hours until the magnetic particle inspection required by paragraph (g)(2) of this AD is done.

Note 1 to paragraph (g)(1): Guidance on the inspections and on-condition actions required by this AD can be found in Transport Canada Civil Aviation (TCCA) AD CF-2020-43, dated October 21, 2020.

(2) Within 1,600 flight hours or 12 months after the effective date of this AD, whichever occurs first, perform a magnetic particle inspection for cracks of the entire tubular section of the affected MLG drag strut assembly, and do all on-condition actions

before further flight, in accordance with a method approved by the Manager, New York ACO Branch, FAA. Performing the magnetic particle inspection required by this paragraph terminates the repetitive detailed inspections required by paragraph (g)(1) of this AD.

**(h) Parts Installation Prohibition**

As of the effective date of this AD, no person may install an affected MLG drag strut assembly identified in figure 1 to the introductory text of paragraph (g) of this AD on any airplane unless the inspections and applicable on-conditions specified in paragraphs (g)(1) and (2) of this AD are done before further flight.

**(i) Other FAA AD Provisions**

The following provisions also apply to this AD:

(1) *Alternative Methods of Compliance (AMOCs)*: The Manager, New York ACO Branch, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or responsible Flight Standards Office, as appropriate. If sending information directly to the manager of the certification office, send it to ATTN: Program Manager, Continuing Operational Safety, FAA, New York ACO Branch, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; telephone 516-228-7300; fax 516-794-5531. Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the responsible Flight Standards Office.

(2) *Contacting the Manufacturer*: For any requirement in this AD to obtain instructions from a manufacturer, the instructions must be accomplished using a method approved by the Manager, New York ACO Branch, FAA; or Transport Canada Civil Aviation (TCCA); or De Havilland Aircraft of Canada Limited's TCCA Design Approval



Organization (DAO). If approved by the DAO, the approval must include the DAO-authorized signature.

**(j) Related Information**

(1) Refer to Mandatory Continuing Airworthiness Information (MCAI) TCCA AD CF-2020-43, dated October 21, 2020, for related information. This MCAI may be found in the AD docket on the Internet at <https://www.regulations.gov> by searching for and locating Docket No. FAA-2021-0613.

(2) For more information about this AD, contact Aziz Ahmed, Aerospace Engineer, Airframe and Propulsion Section, FAA, New York ACO Branch, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; telephone 516-228-7329; fax 516-794-5531; email [9-avs-nyaco-cos@faa.gov](mailto:9-avs-nyaco-cos@faa.gov).

(3) For information about TCCA AD CF-2020-43, dated October 21, 2020, contact TCCA, Transport Canada National Aircraft Certification, 159 Cleopatra Drive, Nepean, Ontario K1A 0N5, Canada; telephone 888-663-3639; email [AD-CN@tc.gc.ca](mailto:AD-CN@tc.gc.ca); Internet <https://tc.canada.ca/en/aviation>. You may view this service information at the FAA, Airworthiness Products Section, Operational Safety Branch, 2200 South 216th St., Des Moines, WA. For information on the availability of this material at the FAA, call 206-231-3195.

**(k) Material Incorporated by Reference**

None.

Issued on October 26, 2021.

Lance T. Gant, Director,  
Compliance & Airworthiness Division,  
Aircraft Certification Service.